MTAC WORKGROUP #115
REQUIREMENTS FOR FLAT MAIL PREP & ENTRY IN AN FSS ENVIRONMENT
FINAL REPORT

WORK GROUP FOCUS

- **Issue Statement** – the deployment and integration of the Phase 1 Flats Sequencing System (FSS) is targeted to begin in summer of 2008. The FSS program will impact how flat mail is prepared, presented and scheduled for entry in the USPS. In an FSS environment, the process from mail owner through to the USPS becomes continuous, which means there will be interdependencies of inputs and outputs through the entire process from concept to ultimate delivery. Interdependencies will drive standards and requirements for preparation and entry of mail, and for data exchange. The results of the standards and requirements for preparation and entry of flat mail will play a major role in determining the efficiency of flats processing on Flats Sequencing System equipment.
- **Desired Results** – identify areas of impact to the USPS and customers associated with preparation and entry of flats in an FSS environment including the lowest combined cost model.

PARTICIPANTS

- Participants included 49 industry workgroup members, 18 IDEAlliance members and 20 USPS representatives who also participated in two Think-Tank sessions in an effort to brainstorm solutions to specific challenges. One Think-Tank focused on physical bundle preparation, the other on preparing presort-products for communicating FSS schemes.

BACKGROUND

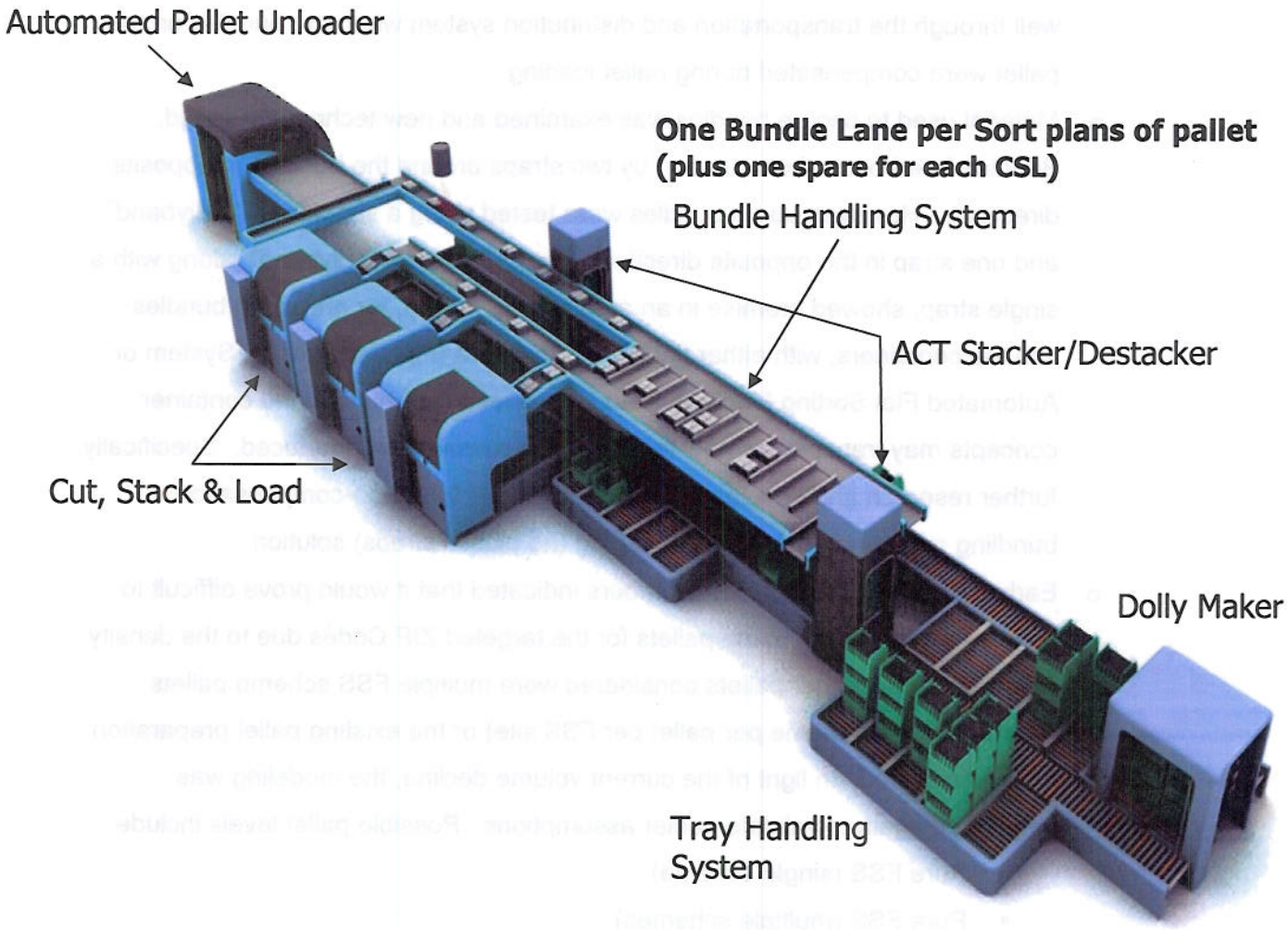
The USPS embarked on flat mail automation in March 2000 with the deployment of the Automated Flat Sorting Equipment (AFSM 100). As efforts were underway to deploy new technologies, MTAC workgroups were formed to begin aligning industry flat processes with the new USPS systems. Two previous workgroups served as the catalyst for Workgroup 115:

- **MTAC Workgroup 81, *Flat Mail Preparation Optimization* (2003-2005)** mission was to recommend changes in presort software relating to sortation rules and levels of flat-shaped mail in an effort to reduce residual mail, improve efficiency of container use and improve the preparation of flat-shaped mail to match the needs of current and scheduled automated processing equipment. Some activities of the workgroup included testing alternative preparation methods for flat-size palletized mail and testing a Flat Feeder Assist System (FFAS). The workgroup concluded and handed off to Workgroup 96.

- **MTAC Workgroup 96, *Develop Interface to AFSM 100 Auto-Induction Process*** (2005-2007) the workgroups mission was to explore innovative preparation techniques to facilitate seamless, efficient transition to the new induction device AFSM-ai. The workgroup tested the following concepts:
    - Hand Loaded Automation Compatible Trays (ACT) off addressing line (Harte-Hanks)
    - Pallet of 18 ACTs created by printer
    - "Auto-Ready" Pallets Created (R.R. Donnelley) - the workgroup determined that this was the *preferred method for the Ai environment as we move forward toward FSS"*
    - MTAC Workgroup 96 handed off their results for consideration to MTAC 115 as FSS was now a reality and a pre-production FSS system was operational
- **Automated Flats Processor (AFP)** - the "auto-ready" pallet concept gained momentum as the USPS introduced a project intended to provide postal operations with the capability to automatically process bundles. AFP includes sorting, cutting straps, and loading bundles into ACTs and onto dollies to support flats processing on the Flats Sequencing System (FSS) or an Automated Flats Sorting Machine (AFSM)-*auto induct*. The AFP technology was developed and a proof of concept system was tested at the Dulles VA P&DC in conjunction with the FSS program. The AFP key functions are:
    - Auto Bundle Depalletizer– automatically unload bundles from pallets
    - Distribute Bundles based on sort plan with Optional Endorsement Line (OEL) readability – convey and prep bundles as appropriate for processing
    - Process Bundles - cut and remove bundle strapping, and load mail into ACTs
    - Make Dollies - produce sort plan based dollies with full ACTs
    - Dispatch Dollies – dollies of full ACTs, produced for specific sort plans, will be released for induct into (piece-level) flats sorting equipment

The hand-off from Workgroup 96 and development of the AFP technology provided a platform for Workgroup 115 to expand the modeling efforts and test the theories that had been previously identified. The Automated Flats Processor initiative is an essential progression of flats processing and helped steer the activities of Workgroup 115.

AUTOMATED FLATS PROCESSOR



MTAC WORKGROUP 115 ACTIVITIES

- **Bundle and Container Testing**
  - A variety of product types and sizes (of catalogs and magazines) were used in the testing. Testing looked at uniform bundle heights, compensation of bundles, containerization and methods of securing bundles. This work built on the concept of the auto-ready pallet developed in Workgroup 96. Live mail testing found non-compensated (counter-stacked) bundles of uniform height could travel well through the transportation and distribution system when the bundles on the pallet were compensated during pallet loading.
  - Material used to secure bundles was examined and new technology tested. Bundles fared best when secured by two straps around the bundles in opposite directions. However, some bundles were tested using a shrinkwrap "bellyband" and one strap in the opposite direction. The shrinkwrap "bellyband", along with a single strap, showed promise in an automated process, for preparing bundles into the containers, with either flat sorting machine (Flat Sequencing System or Automated Flat Sorting Machine.) Additional testing of bundle and container concepts may transpire as new technology is revealed or introduced. Specifically further research and development could continue for a non-compensation bundling and shrinkwrap only packaging (no plastic straps) solution.
  - Early modeling by workgroup members indicated that it would prove difficult to prepare single FSS scheme pallets for the targeted ZIP Codes due to the density of the mailings. Other pallets considered were multiple FSS scheme pallets (more than one scheme per pallet per FSS site) or the existing pallet preparation method retained. In light of the current volume decline, the modeling was conducted again to validate earlier assumptions. Possible pallet levels include:
    - Pure FSS (single scheme)
    - Pure FSS (multiple schemes)
    - Combined FSS and non-FSS

    Various pallet preparations were examined to identify opportunities to bypass APPS processing and ensure FSS pallets move straight to the FSS container prep area for initial processing. Indeed, all automated processing by either flat sorting machine is improved by having auto-ready pallet preparation.

IMPACT OF VOLUME REDUCTION

- Due to economic conditions flat volumes started to decline. Initially, more ZIP Codes and sort schemes had to be added to each planned FSS unit. As volumes continued to trend downward, further analysis determined the need for changes to the original FSS deployment plan. The outcome of that analysis is a modified plan, which will redirect approximately 19 FSS machines to new locations that better ensures expected levels of savings. Some sites are receiving fewer machines and new sites were added. The deployment schedule will continue to be updated and posted on the "All Things FSS" Flats Strategy Web site on RIBBS.
- Additionally, the volume reduction that has been experienced makes the preparation of FSS single-scheme pallets even more difficult to produce. Also recognizing the importance to attain the lowest end-to-end combined cost, the optimal condition will best be achieved when a mailer, for all postal sites and processing technologies, can employ a single-preparation solution. The need for a single-preparation method, along with affects of volume reduction, further supports a bundle preparation solution that is compatible with both AFSM and FSS processing.

STATUS OF ACTION ITEMS

- Bundle preparation is in alignment with the auto-ready pallet developed from Workgroup 96. Bundles would include non-compensation of a uniform bundle height, such as 3", 4" or 6". Further bundle securing methods will be explored as technology, such as the Automated Flats Processor, is developed and deployed. Until that time, the recommendation remains two straps crosswise around the length and girth of a bundle.
- Containerization will include non-compensated bundles on compensated pallets. Pallet contents will be determined by the FSS schemes and the amount of mail destinating at each site. FSS integration can be advanced by introducing an optional FSS scheme (bundle/pallet) preparation, until such time a required preparation is warranted or introduced.
- Presort parameters will be provided via a DMM Labeling List identifying the ZIP Codes to be combined into an FSS scheme for each FSS site.

- Because of volume declines, and redirection of FSS machines to more sites, it is unlikely that the number of destination entry points will increase. Instead, as FSS volume is taken from processing on the AFSM 100, there will be additional capacity for automated processing of flats from ZIP Codes currently being sorted manually. By moving more mail to automated processing in a more central location, the number of destination SCF entry points may contract, with processing operations shifting to a new location.

RESOLUTION STATEMENT / NEXT STEPS

MTAC Workgroup 115 completed its mission by accomplishing extensive analysis and testing several concepts including "auto-ready" pallets on the AFP, hybrid "bellyband" strapping methods, optical character reading of Optional Endorsement Line capability and automated pallet unloader. Due to the financial challenges within the USPS, the AFP technology and "auto-ready" pallet concept is currently on hold. As a result, the workgroup proposed an interim strategy involving flat mail preparation for FSS sort-schemes (bundles and pallets) that will likely benefit both the USPS and the mailing industry. The workgroup has laid a solid foundation for an FSS optional flat-mail preparation methodology. Workgroup 115 is sun-setting as it has successfully completed its assignment and proposes that a new workgroup form and align under the "Optimizing Mail Preparation and Entry" focus area. The new workgroup, "Implementing FSS Presort Parameters," should move forward the optional FSS flat mail preparation. The proposed workgroup charter should include the following results:

- Develop and implement presort parameters to support defined FSS scheme bundles and pallets
- Identify timing of software updates related to FSS deployment
- Communicating the timing and FSS Label List